## Amendments to the Claims

**Listing of Claims**:

Claims 1 - 14 (canceled).

Claim 15 (new). A method for operating a battery sensor, the method which comprises:

providing the battery sensor with an ammeter for determining a battery current, an evaluation unit, and a microprocessor, and performing the following method steps during an idle phase in which main electrical consumers assigned to a battery are switched off:

directing the microprocessor into a switched-off state;

at given first time intervals, acquiring a test signal from the ammeter for a given first time duration with the evaluation unit and assigning thereto first current values, monitoring the values in the evaluation unit to check whether a first threshold current has been exceeded and/or whether a second threshold current has been undershot;

when the first threshold current value is exceeded or the second threshold current is undershot, moving the microprocessor into a switched-on state and acquiring, for a given second time duration, the test signal from the ammeter with the evaluation unit and assigning thereto second current values, and evaluating the values in the microprocessor; and

if certain conditions depending on the second current values are met, initiating given procedures for maintaining an electric charge in the battery by the microprocessor; and

wherein the first time duration is shorter than the second time duration.

Claim 16 (new). The method according to claim 15, which comprises, during the idle phase, moving the microprocessor into the switched-on state in given second time intervals greater than the first time intervals and determining with the evaluation unit for the second given time duration the test signal from the ammeter and assigning second current values thereto, and then evaluating the values in the microprocessor.

Claim 17 (new). The method according to claim 15, which comprises determining an integral value for the current over the time duration of the idle phase as a function of the respective second current values.

Claim 18 (new). The method according to claim 15, which comprises generating a wake-up signal for a superordinate control unit, wherein the superordinate control unit is configured to implement procedures for maintaining the charge in the battery if the integral value for the current exceeds a given integral threshold.

Claim 19 (new). The method according to claim 15, wherein the battery sensor comprises a voltage divider having an input side receiving a voltage of the battery and an output side connected to an input of the evaluation unit, a first switch connected electrically in series with the voltage divider and having a first switch position turning off a current flow through the voltage divider and a second switch position enabling the current flow through the voltage divider, and wherein the method further comprises directing the first switch to assume the first switch position during the idle phase to shut off the current flow through the voltage divider.

Claim 20 (new). The method according to claim 19, wherein:

a low power resistor is connected in parallel with the voltage divider and in series with a second switch, the second switch having a first switch position shutting off a current flow through the low power resistor and a second switch position enabling the current flow through the low power resistor, and the method further comprises:

directing the second switch into the first switch position shutting off the current flow through the low power resistor and determining the voltage on the output side of the voltage divider as the first voltage value;

directing the second switch into the second switch position to enable the current flow through the low power resistor and determining the voltage on the output side of the voltage divider as a second voltage value; and

determining, as a function of the first and second voltage values, a line resistance of an electrically conductive connection between the battery and the voltage divider.

Claim 21 (new). The method according to claim 19, wherein:

the battery includes a first battery and a second battery connected in series and the battery sensor has a voltmeter outputting a measurement signal characteristic of a voltage across either the first battery or the second battery, and the method which comprises:

determining measurement values of the voltmeter at given third time intervals and determining measurement values for the output voltage of the voltage divider at given fourth time intervals, wherein the third time intervals are longer than the fourth time intervals.

Claim 22 (new). The method according to claim 19, wherein:

a generator is connected in parallel with the battery and the battery sensor includes a further voltmeter outputting a measurement signal representative of the voltage of the generator, and the method which comprises:

determining measured values from the further voltmeter at given fifth time intervals and determining measured values for the output voltage of the voltage divider at given fourth time intervals, wherein the fifth time intervals are greater than the fourth time intervals.

Claim 23 (new). The method according to claim 15, which comprises, when the voltage drops below a given threshold voltage, determining given operating parameters of the battery and storing the parameters in a non-volatile memory.

Claim 24 (new). A battery sensor, comprising:

an ammeter for determining a battery current, an evaluation unit, and a microprocessor, configured such that, during an idle phase in which main electrical consumers assigned to a battery are switched off:

said microprocessor is switched off;

said evaluation unit is configured to determine, at given first time intervals, a test signal from said ammeter for a given first time duration, and to assign thereto first current values, said evaluation unit monitoring the values to check whether a first threshold current value has been exceeded and/or whether the current has dropped below a second threshold current value;

when the current has exceeded the first current value or has dropped below the second threshold current value, said microprocessor is placed in a switched-on state and for a given second time duration, the test signal from said ammeter is determined by said evaluation unit and second current values are assigned thereto, the values then being evaluated in said microprocessor;

said microprocessor initiating given procedures for maintaining the electric charge in the battery if a given condition depending on the second current values is met; and

wherein the first time duration is shorter than the second time duration.

Claim 25 (new). The battery sensor according to claim 24, which comprises:

a voltage divider having an input side connected to receive a voltage across the battery, and an output side conductively connected to an input of said evaluation unit;

a first switch electrically connected in series with said voltage divider, said first switch having a first switch position shutting off a flow of current through said

voltage divider and a second switch position enables the flow of current through said voltage divider.

Claim 26 (new). The battery sensor according to claim 25, which comprises:

a low power resistor electrically connected in parallel with said voltage divider;

a second switch electrically connected in series with said low power resistor, said second switch having a first switch position shutting off a flow of current through said low power resistor and a second switch position enabling the flow of current through said low power resistor.

Claim 27 (new). The battery sensor according to claim 26, wherein the battery includes first and a second batteries connected in series, and a voltmeter is connected to measure the voltage across either the first or the second battery.

Claim 28 (new). The battery sensor according to claim 26, which comprises a generator electrically connected in parallel with the battery and a voltmeter connected to measure a voltage of said generator.